

CLAIMS:

1. A pressure sensor comprising:

a diaphragm exposed to gas; and

metallic material covering the diaphragm,

5 wherein a predetermined voltage can be applied to the metallic material.

2. A transmitter comprising a pressure sensor that has a diaphragm exposed to gas, wherein the transmitter transmits pressure data detected by the pressure sensor, the transmitter comprising:

a power supply circuit for supplying electricity to the transmitter;

5 metallic material covering the diaphragm; and

a connecting member, wherein the connecting member connects the power supply circuit with the metallic material such that the potential of the metallic material is the same as the potential of the power supply circuit.

3. The transmitter according to Claim 2, wherein the connecting member is a lead wire.

4. The transmitter according to Claim 2, wherein the diaphragm is formed on a ceramic base, and wherein the connecting member is metal plating on an inner surface of a through hole formed in the base.

5. The transmitter according to Claim 2, wherein the transmitter is provided in a tire of a vehicle, and wirelessly transmits pressure data representing a condition of the tire.

6. The transmitter according to Claim 2, further comprising:

a casing that has an opening and accommodates the pressure sensor;

a lid for closing the opening of the casing; and

a conductor provided on the lid,

5 wherein, when the opening of the casing is closed with the lid, the metallic material is connected to the power supply circuit through the conductor.

7. A tire condition monitoring apparatus, comprising:

the transmitter according to Claim 5; and

a receiver, wherein the receiver receives data transmitted by the transmitter with a reception antenna, and processes the received data.

8. A tire condition monitoring apparatus comprising a pressure sensor that measures air pressure in a tire of a vehicle, a transmitter that transmits pressure data measured by the pressure sensor, and a receiver that receives and processes data transmitted by the transmitter,

5 wherein the pressure sensor includes:

a diaphragm exposed to air in the tire; and

metallic material covering the diaphragm,

wherein the transmitter includes:

a power supply circuit that supplies electricity for activating the transmitter; and

10 a connecting member, wherein the connecting member connects the power supply circuit with the metallic material such that the potential of the metallic material is the same as the potential of the power supply circuit.

9. The tire condition monitoring apparatus according to Claim 8, wherein the power supply circuit comprises a battery.

10. The tire condition monitoring apparatus according to Claim 8, wherein the connecting member is a lead wire.

11. The tire condition monitoring apparatus according to Claim 8, wherein the diaphragm is formed on a ceramic base, and wherein the connecting member is metal plating on an inner surface of a through hole formed in the base.

12. The tire condition monitoring apparatus according to Claim 8, wherein the transmitter further includes:

a casing that has an opening and accommodates the pressure sensor;

a lid for closing the opening of the casing; and

5 a conductor provided on the lid,

wherein, when the opening of the casing is closed with the lid, the metallic material is connected to the power supply circuit through the conductor.

13. The tire condition monitoring apparatus according to Claim 8, wherein the metallic material is a film formed by aluminum deposition.

14. The tire monitoring apparatus according to Claim 9, wherein the metallic material is connected to either a power supply potential or a ground potential of the battery.